PHILADELPHIA, FEBRUARY 17, 1877.

ORIGINAL COMMUNICATIONS.

WRITERS' CRAMP: ITS SYMPTOMS AND TREATMENT.

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Read before the New York Journal and Library Association, November 5, 1875.

PART II.—TREATMENT.

IT has been supposed that rest is all the treatment that writers' cramp needed; but patients may take long vacations,—weeks and months,—may fly to manual employments, and when they come back to the desk the evil spirit of disease comes with them.

Before the introduction of electricity into therapeutics, writers' cramp had been usually regarded as incurable and unrelievable; patients with this malady folded their arms and resigned themselves to destiny; but even now, with all our improved appliances, writers' cramp is not a pleasant disease to have in the family; like somewhat analogous affections, as wry-neck, facial spasm, or other local spastic diseases, it is hard to permanently cure when once it has got firmly seated.

The reasons why it is so obstinate are, that it comes on so stealthily that it becomes a habit before its character is suspected, and that it is kept up by the necessities of the occupation. And yet, under judicious and well-sustained electrical treatment, cases taken early are sometimes entirely cured, cases taken late are much helped, while a certain proportion are beyond all help. The methods of electrization that I employ are local and stable galvanization of the affected nerves and muscles; spinal cord, nerve, and muscle currents; mild faradization of the muscles, the electric brush, and now and then, when the nervous system is disturbed, central galvanization. I would suggest, also, that mild electrolysis of the numb or painful form might be tried: I have used this mode in sciatica, with apparently good effect. Dr. Poore, of London, has recommended rhythmical exercise of the muscles simultaneously with the electrization; but I have not tried this to any extent, and he has not proved the combination to have any special advantage over the various methods of electrization used alone; but there may be some advantage in some cases, and on theoretical grounds it might be advised.

Internally, the calabar bean has been recommended by Hasse. I have tried it in one case, and with pleasant results. It is generally better, though not always necessary, for the patient to abstain from writing for a few weeks or longer; and there may be cases where a radical change of business is imperative. Cases taken sufficiently early may find that a good vacation will be sufficient, and there are those who get along well by simply letting up a little, and in every possible way favoring their arm. Muscular exercise of various sorts is of value; it calls into play other muscles, and also makes the writing-muscles move differently from their usual routine. Just what kind of muscular training is best, I do not know. An editor of this city who was for a very short time troubled by symptoms that clearly pointed to writers' cramp was cured, so he tells me, by daily practising the art of paddling a canoe. The idea may arise whether there was anything in the exercise of paddling first one side of the canoe and then the other that was specially advantageous. It is certain that the man got entirely well, and is yet at work in his profession.

I am inclined to believe that some cases of writers' cramp, in the early stage, as I have described it, get well spontaneously, either with or without rest; and very often the patient does not know or suspect what his symptoms mean. I form this opinion from what has been told me by persons who are now well, but who at some time in their lives have suffered symptoms that must have been at least on the road to writers' cramp. Facial spasm, when chronic, is very obstinate, but all of us here know persons who have been troubled with annoying spasms of the orbicularis or other muscles of the face, more or less, for days and weeks, and got well before they had time to take treatment.

Dr. Althaus insists that the positive pole should be placed on the upper vertebræ, and the negative in the stylo-mastoid fossa, and that the reverse arrangement is not effectual. I have not been able to differentiate the effect of the poles as closely as this in writers' cramp, or, indeed, in any other disease. The "immediate relief from

disagreeable sensations in the hand and arm," of which Althaus speaks, I have found to follow all the varied methods of application of which I have spoken, and even cases that do not permanently yield are for the time made much easier.

In applications of this kind, the upper part of the spinal cord is traversed by the current, and also the sympathetic and pneumogastric; but the benefit in this affection is probably due to the action of the current on the cord.

The late President Felton popularized the notion that the use of steel pens caused writers' cramp, and this disease has even been known as "steel-pen palsy." The theory is, that the electricity of the body is conducted off by the steel: hence the enfeeblement of the arm. This theory is only a part of the general and widely popular notion that diseases of many kinds, or of all kinds, may be cured or brought on by keeping in or letting out the electricity of the body. We read in the papers, for example, that Commodore Vanderbilt declared that he owed his strength and long life to the fact that he had always worn woollen stockings and thus kept in his animal electricity. One year ago, a man called upon me to get my endorsement for a glass pedal or treadle for sewing-machines, claiming that the nervous and other symptoms that follow long working on these machines do not arise when the feet are kept on an insulator; and he brought me a number of favorable certificates from operators. During the past year, a number of papers written by physicians have appeared in the medical journals, claiming rapid cures of acute rheumatism by insulating the beds of the patients by putting the legs in tumblers or pieces of glass. In regard to these claims in general, I am unwilling to express a definite opinion until the investigations I am now carrying on are completed. The true way of studying claims of this kind is to take a number of cases—the more the better—that are obstinate to usual treatment, and, without letting the patient know what we are about, insulating the beds and watching the effects: in this way we can eliminate two great sources of error that vitiate half our therapeutical experiments,—viz., coincidences, and mind acting on body.

The claims of the sewing-machine attachment could be investigated by allowing a number of operators who have been injured by machines to use the glass pedal, deceiving them in respect to its object.

The special claim that writers' cramp may be relieved by using a rubber penholder does not seem to be sustained, several of my patients having made experiments of that kind without benefit. It is, however, possible that the old-fashioned flexible quills were easier on the writing-muscles than the stiff, unyielding steel or gold pen of modern days; and it may be that in this fact we may get a partial explanation of the frequency of writers' cramp in recent times. In my own experience, I am sure I have found relief from tiredness of the arm in writing, by resorting temporarily to the quill. An easy-gliding lead-pencil also affords relief after long use of the pen, as many sufferers find. A writing-master whom I know declares that the cause of writers' cramp is a wrong method of writing,—too much use of the hand, and too little use of the forearm. The method he teaches is to allow the hand to rest very lightly on the table, while the arm works backward and forward with a piston-like motion. Writing in the lap, instead of on a desk, I have found a real relief in prolonged literary work. I first made this observation on ship-board, on blockade during the war, where I whiled away the weary hours by writing in the only position in which writing was possible when the weather was rough,—that is, seated on the edge of the bunk, and holding an atlas in my lap, the ink-bottle being firmly secured. I found this method so easy and comfortable that I have since availed myself of it and have recommended it to patients. Among the mechanical contrivances that have been found of service is one described by Wales,* to which my attention was called by Dr. Cutler. It consists of a pen-holder firmly supported between two rings fitting on the index-finger and middle finger; by this arrangement the thumb is relieved entirely. Or there may be a thumb-piece and rings on the index-finger, and the penholder can be fastened between these. Or a common pen-holder can be tied to the index-finger by a ribbon. *Pressure* on the affected nerves has been tried: this may be accomplished by two splints applied accurately to the radial and ulnar sides of the hand and held together by an elastic band.

* A Practical Treatise on Surgical Apparatus, Appliances, and Elementary Operations. By Philip S. Wales, M.D., Surgeon U.S.N. Philadelphia, 1867, p. 275.

An elastic bandage on the arm has also given relief.*

A ball of hard rubber, and about the size and shape of a hen's egg, attached to the pen-holder, and held in the hollow of the hand, affords a leverage for the treacherous muscles, and is said to be of service in some cases.

Stromeyer (according to Romberg) treated with success a case of pianists' cramp, by subcutaneous division of the affected muscles. "As early as the fourteenth day after the subcutaneous division of the tendon of the flexor longus pollicis, the patient was perfectly able to resume his piano-forte playing, and also to write." Dieffenbach tried similar treatment on a number of cases, and failed.

The question whether a writers'-cramp patient should change his occupation is one of importance, and one which the physician must help decide. As a rule, in nearly all nervous diseases, if a man is in a calling requiring a variety of brain-work, he would do better to keep in that occupation, provided he is successful and happy in it. No class of people live so long, or are so free from grave disease, as the brain-working class; and even those who are somewhat weakly—who have, it may be, a tendency to some nervous disease,—a nervous diathesis—are generally better off when they live by brain than when they live by muscle; for brain, like muscle, is developed and strengthened by judicious and varied exercise, and, like the muscle also, it grows feeble under long disuse. We treat consumption by making our patients use their lungs, and by exercising in the open air; we treat flabbiness of muscle in children by well-ordered gymnastics: similarly, we should treat flabbiness of brain by agreeable cerebral toil. Even those who have a tendency to hysteria or insanity, or who are constitutionally neurasthenic, are less liable to develop these disorders, and more likely to overcome, in a measure, the tendency towards them, if they healthfully pursue a calling that demands exercise of the brain, than if they live by muscle alone, or remain idle. The general doctrine of the essential inherent healthfulness of brain-work was first advocated by me while a medical student, and experience in practice in the study of nervous affections has confirmed that view, and has also made clearer to me the various and complex causes which combine to make brain-working occupations favorable to health and longevity. I know of a number of instances of young men of delicate appearance, and not very good inheritance, who have entered professional life and grown strong thereby, work having been a kind of sanitary influence, and have already outlived their companions who started in life with far more capital of physical health, but in occupations that demanded little exercise of the mind.

Applying this principle to the subject at hand, writers'-cramp patients who are succeeding in professions, or in business, rarely need to change occupation: ease, rest, a habit of favoring the tired arm, a resolution to do all that can be done in the way of treatment, and after that to dismiss the matter from the thoughts,—that is the best prescription, and it is not inconsistent with frequent vacations, and, in certain crises, with prolonged rest.

I have now under my observation a clergyman who has been afflicted for many years with facial spasm. For five years he rested from his labors, and tried, without effect, various treatment; he is now and for some time has been engaged in regular clerical work, and, besides, he is a laborious author. His disease does not yield permanently, although it is very relievable by galvanic treatment; but he told me the other day that, without regard to treatment, he had been better since he had returned to his preaching than during his five years of rest.

Writers'-cramp patients who are doing purely clerical or copying work, that demands no exercise of brain or muscle, would do well to change to something better, if they can get it.

I have said that the early symptoms of writers' cramp sometimes suggest rheumatism or neuralgia. In the case of a former class-mate of mine, a lawyer of this city, this feature was so noticeable that even now, after he has recovered in the main from his difficulty, he sometimes doubts whether he had real writers' cramp. There was pain in the arm, and the pain was made worse by writing, more than by any other mode of motion; but there was no cramp and no numbness. The symptoms did not

* After the reading of this paper, a medical gentleman, whose name is not known to me, suggested that writers'-cramp subjects had sometimes found relief by using a sort of thimble, to which a pen was attached, on the end of the index-finger. The contrivance, I should judge, is somewhat similar to that which mediums, it is said, sometimes employ in writing messages from the spirits of the dead, on a slate under a table.

give way very readily to a short course of treatment, but in time he so far improved that he could use his arm in writing about as much as he chose, and at one time, as he tells me, while occupied with an important case, he wrote day and night, and no serious injury resulted.

A lawyer, of middle life, had spent a number of months in Europe. A few weeks after his return his right arm began to trouble him in writing, pain extending from the arm up to the junction of the deltoid. He was benefited by treatment, and kept on in his profession. I used galvanization of the cervical spine and spinal cord nerve-currents. The patient had always been healthy,—knew very little of sickness of any kind. In his case the trouble seemed to be excited by sudden entering upon work after long rest.

In the case of a prominent editor that I reported two years ago, the first symptom that drew his attention was numbness localized in the end of the index-finger. This numbness was persistent and ugly, and was always made worse by writing, and was followed, in a short time, by pains up and down the arm and forearm. The patient favored his arm as much as possible, employed a secretary to do his writing, began very early to take electrical treatment, injured his shoulder by a fall that kept him in the house for some time, and, as a result, perfectly recovered, and remains well, I believe, and is carrying on the duties of his editorial profession.

In the case of a distinguished surgeon of this city, whom I treated for a mild form of this disorder last year, there was decided benefit apparently from local galvanization and spinal cord, nerve, and muscle currents. At the same time there was a partial rest from professional labor, and a change, as usual in summer, to country life. In this case the chief symptom was tiredness and aching of the arm, extending up to the neck, always worse after much use of the arm in writing letters. For some time the malady had been coming on, but it was precipitated, so to speak, by a prolonged use of the arm in writing out some important document. Relief was obtained by writing in the lap. This gentleman has an unusually vigorous constitution.

Last year a stenographer, suffering from writers' cramp, was brought to me by Dr. McLean, of Elizabeth. The patient had been suffering several months already, but was yet hard at work in the duties of his calling. His custom was to take short-hand notes, and then copy them in ordinary writing,—just the kind of work to bring on writers' cramp. Aching and tiredness were his chief symptoms. Treatment relieved, but did not cure, for he was obliged to keep at his employment. He was forced to give up his copying and restrict himself to taking short-hand notes, which he found to be easier than ordinary writing; but in time even this wearied his hand. He was accustomed to use the type-writing machine, the principle of which is that the writing is done by the fingers striking keys, as on a piano. This is a very different motion from that required in ordinary writing, and for a time it was a relief; but in the course of weeks even that became somewhat fatiguing. This patient very likely would have recovered if he could have changed his business; for the temporary effects of treatment were always good.

The very worst case of writers' cramp that I ever heard of I saw in 1874, in Detroit, while attending the meeting of the American Medical Association in that city. The patient, a man between thirty and forty years of age, I should judge, was under the care of Dr. Brodie, of that city, at whose request I examined the case. I took no notes at the time, but the leading fact of the case was so prominent and unusual that it could not pass from memory. The sufferer had his forearm suspended, and the arm and shoulder were drawn backwards by firmly-contracted muscles that rose in lumps and caused terrible pain. The hand, forearm, and arm were useless, not only for writing, but for anything else, and the pain persisted even when at rest. Dr. Brodie had, I believe, cut some of the contracted muscles, in order to relieve the pain. The deformity and pain combined unfitted him for all occupation, and there was no hope in any treatment that had not already been tried. The patient was a clerk in a railway office when the disease appeared, and there was nothing peculiar, so far as I remember, in the early symptoms and history.

Mr. S., aged 41, a clerk, was a case of writers' cramp of a very obstinate kind. The symptoms were developed very slowly six years before I saw him, and at first he was relieved by resting the elbow in writing. Among the earlier symptoms were inability to make upward curves easily, and a tend-

ency to grasp the pen-holder tightly. He found it necessary to use a large pen-holder. This condition was attended by trembling and nervousness of the hand. There was no actual pain until the year 1874, when I began to treat him. During the year there was pain all through the hand, and it extended up to the neck. In 1872 he had noticed that carrying a parcel or small valise would tire the arm. At one time he stopped writing entirely, and took up gardening, and then came on pain, aching, and cramp in the left arm, although he had never written with the left hand. Since he has been under my observation there has been some spasm of the fingers, although he is yet able to write well, and to do a great deal of writing, a little at a time; but his handwriting has greatly changed in style, there being a decided lack of uniformity; for his index-finger or thumb is liable to slip on the pen-holder. He is troubled also with coldness of the hands and feet. Shortly after he commences to write, the trapezius and sterno-cleido-mastoideus become involved, causing the head to incline to the left side, resulting in pain for hours afterwards. He describes the feeling as if he were getting a stiff neck, or had been sleeping on a pillow too high for his head. He can write for a long time quite legibly, provided he has plenty of room, as both arms must be rested while writing, the weight of the upper part of the body depending upon the left arm: failing these conditions his writing becomes a mere scribble, looking as if written by another person.

This patient has never been benefited by treatment, although various methods have been employed on him. Even the persistent use of the electric brush, though very pleasant to the patient, does no permanent good. Temporary relief of the aching and weariness of the hand and arm is all that any of the methods can bring. Rest from writing and change of occupation have been equally ineffective. At one time I used the actual cautery without effect; I tried also injections of arsenic, and at another time injections of atropine, as suggested by Dr. Vance, but without effect.

It is possible that a free use of the actual cautery may be of service in this case. The applications should be made to the upper part of the spine, and repeated many times. In the case of a young man, a book-keeper, sent to me this summer by Dr. Budd, there was no pain in the arm, but much difficulty in writing. He had been troubled for five years, and no treatment, including cautery of the neck, had availed to remove the difficulty, although certain symptoms of cerebral exhaustion associated with the writers' cramp had been relieved. An exceptional fact in this case was that he could write more easily after he had been writing an hour or more than on first taking the pen in hand. The constitution of the patient was excellent; he had known little of sickness. He was obliged to continue in his occupation without vacation,—hence the benefits of treatment were in a degree neutralized; but local galvanization was of considerable service, although the greatest benefit seemed to come from the tincture of calabar bean in pretty large doses,—twenty to thirty-five drops. The sedative action of this remedy was quickly and most agreeably appreciated. As soon as any evil effects were realized from the remedy it was discontinued for a few days. In regard to the permanency of the results, I have not been able to learn.

Writers' cramp is very rare indeed in women. I have seen but one case in a woman, and that was complicated with local injury and, I suspected, reflex effects. This case, which I have elsewhere* reported in full, was a widow lady 39 years of age, referred to me by my friend Dr. A. W. Catlin. She sustained herself by hard copying, day and night, for a lawyer. She had for some time been troubled with symptoms of writers' cramp, when a needle was accidentally run into her right index-finger, which was followed at once by loss of power in the fingers, and in a week the forearm had become weak. There was anæsthesia and analgesia, diminution of volitional contractility, but not electro-muscular contractility. The dynamometer showed loss of power in the muscles. The case was pretty clearly one of writers' cramp, aggravated by and complicated with paralysis. After the injury, she found it so hard to write with the right hand that she acquired the art of writing with her left hand, and became proficient. I do not believe that in this case there would ever have been a need of treatment for the incipient symptoms of writers' cramp that appeared before the

* Beard & Rockwell's Medical and Surgical Electricity, second edition, p. 456.

accident if the accident had not occurred. The lady was quite nervous, inherited astraphobia, or a morbid fear of lightning, insomnia, and spinal irritation, and the probabilities are that, like nervous organizations in general, she would have broken down generally under hard writing before breaking down locally. I have stated already the general principle that the nervous and hysterical of either sex cannot usually write hard enough and long enough to get writers' cramp: they give way in the nervous system in general, become easily tired, and so are forced to rest. Women are far more nervous than men: hence the extreme rarity of writers' cramp among them. The consideration, also, that fewer women than men are engaged in systematic writing is of importance.

Romberg* makes the same observation of the rarity of this disease among women. He says, "Hitherto the writers' cramp has almost exclusively been met with in the male sex. I have only heard of a single instance occurring in a female."

The following case of sewing-women's cramp was observed at my class in Demilt Dispensary.

The patient, a woman aged 58, had for forty years been engaged in the occupation of sewing carpets. For five years she had been troubled with pricking and tingling sensations in both arms and hands, with cramps. The first thing noticed was a tender spot on the elbow, over the region of the ulnar bone. Sometimes there would be localized cold spots or regions on the arm, other portions remaining comfortable. The legs and feet were almost always cold. The anæsthesia of the hands was quite decided, so that she could not pick up a pin or any very small object. The right hand was much worse than the left; with the right she could not hold any heavy weight. There was spinal irritation the entire length of the spine. Usually felt worse in the morning.

The patient had been obliged to give up her work entirely. The history and symptoms pointed to over-use of the muscles concerned in the act of sewing. Her custom had been to sew very rapidly, and to work many hours, on a very difficult kind of work that required much muscular exertion.

The practical points that a study of writers' cramp in the manner presented in this paper suggests are these:

1. The symptom of *cramp* or *spasm* by which this disease is generally recognized belongs only to the latest and more serious stages, and it is accompanied and usually *preceded*, sometimes for months and years, by *pain, aching, coldness, stiffness* or *numbness* of the fingers, hand, forearm and arm, shoulders, and cervical and dorsal spine, which symptoms are brought on or aggravated almost exclusively by the act of writing, and in time, if neglected, may lead to the cramp or spasm.

2. The disease, either primarily or secondarily, is a central one, and requires a central as well as peripheral treatment.

3. It is most common among those of strong constitutions who do routine and copying work,—as clerks and lawyers; not so common among the nervous and hysterical, or original composers; and very rare in females.

4. If the symptoms are taken early, *before the cramp or spasm has set in*, or just as it begins to appear, and is properly treated by electricity, which is the main therapeutical dependence in this disease, in its varied methods of application, there may be a radical cure, and in some cases without a change of occupation. When the disease comes to be generally recognized by its incipient symptoms, it will be far less a reproach to our art than it now is, and could always be much relieved even when not permanently cured.

To those with whom, from long neglect of the symptoms, or from the necessities of occupation, or from both causes combined, there is no hope of perfect recovery, I am wont to offer the reflection that, after all, health is a luxury, not a necessity; neither for usefulness nor happiness is it indispensable. If the rest of the body be kept in fair working order, as it may be usually, we can endure even a crippled right arm.

* Nervous Diseases, vol. i. p. 320.

VACCINATION DURING THE PERIOD OF INCUBATION OF SMALLPOX, ILLUSTRATED BY CASES.

BY W. M. WELCH, M.D.,

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IN his article on "Smallpox" in Ziemssen's Cyclopædia of the Practice of Medicine, Dr. Curschmann writes as follows:

"Are we able to exert any influence on the disease in the early stage preceding the eruption? Is it possible in infected persons during the stages of incubation and invasion to cut short the disease or to modify its course? Many attempts have been made to answer these questions affirmatively, but as yet without much result. The first idea was vaccination, and this was employed by some in the ordinary way; by others, subcutaneous injections of vaccine lymph have been made, it is said, with good results (Furley, *Lancet*, May 25, 1872). I must, however, advise great skepticism regarding these assertions. Of the subcutaneous injection of lymph I have no experience; but that ordinary vaccination during the stages of invasion and incubation cannot stay the disease has been proved to me by chance observation and direct experiments. On the contrary, I have seen, in cases in which vaccination was practised after infection with variola, vaccine pustules and smallpox pustules develop side by side. It is, in my opinion, very doubtful whether vaccination can even render the course of the disease milder."

I also have no experience in the hypodermic use of vaccine lymph, and can say with Dr. Curschmann that I have frequently seen the vaccine vesicle and the variola pustules develop side by side, with no modification of the disease. This fact, so well established, should, I think, be regarded as proof that vaccine lymph introduced subcutaneously during the invasion of smallpox is incapable of exerting any remedial power over the disease. Among the facts demonstrated in the cases furnished below, one is that the prophylactic power of vaccination does not become manifest until the system has been brought fully under the influence of the vaccine disease, and that this does not take place before the maturation of the vesicle. This being true, it is then about as inconsistent with reason to use vaccine lymph subcutaneously as a curative agent in smallpox, as is the homœopathic practice of administering it by the stomach.

I cannot, however, indorse the unqualified statement of Dr. Curschmann, notwithstanding it is based upon his own experience,—namely, that vaccination during the stage of incubation of smallpox cannot stay the disease, nor even render its course milder. Among the cases furnished below may be found several striking examples of vaccination after exposure wholly preventing the occurrence of the disease; and also several examples of its power to modify the course of the disease. In order to obtain either of these results, it is, of course, necessary that the vaccination should not be too long delayed after exposure has taken place. The duration of the stage of incubation of smallpox has been found to be most frequently from nine to thirteen days. In the cases where I have been able to fix it definitely, I have found it to be about ten days in the larger proportion of them,—*i.e.*, the initial fever appearing on the eleventh day, and the eruption on the thirteenth after exposure. Now, if vaccination is performed shortly after the reception of the variola contagion, the vesicle, if it runs a typical course, will arrive at maturity before the time of the expected outbreak of the disease, and will, consequently, prevent its occurrence; or, if the protection should not prove complete, the course of the disease will certainly be very much modified. When neither of these results follows, my experience would lead me to believe that the vaccination is in some way at fault.

But, if the vaccine vesicle has not reached or very nearly reached its maturity, or, to be more definite, if the vesicle has not arrived at its seventh or eighth day of development before the outbreak of smallpox, no modifying influence may be expected from it. Not only may the vaccine vesicle and the variola eruption develop side by side, but the former may even arrive at maturity some days in advance of the latter without exerting any modifying influence over the course of the disease.

As illustrative of the foregoing remarks, I submit the following brief histories of fifty persons in whom vaccination was performed after exposure. Before doing so I would remark that the majority of these persons were exposed to the variola contagion before entering the Municipal Hospital, where they were observed, and that all of them were thus exposed after admission; and, also, that the vaccinations were primary ones in every instance. And I would call attention, particularly, to the results attending the vaccinations performed in the hospital, for they were all done by myself, and with virus known to be reliable. It is chiefly upon these results that the conclusions already expressed are based.

No. 1. *Perfect protection.*—An infant, æt. 6 months, suffering from a cutaneous disease (not smallpox), was sent to the hospital as a case of variola; vaccination after admission;

"took" well; remained in hospital nine days; enjoyed immunity from smallpox.

No. 2. *Perfect protection.*—A girl, æt. 17 years, suffering from measles, was sent to the hospital as a case of variola; vaccination after admission; "took" well; enjoyed immunity from smallpox.

No. 3. *No protection.*—An infant, æt. 5 months, was admitted without disease, in company with its mother, who had smallpox; vaccination after admission; "took" well; about seven days after vaccination the variola eruption appeared; disease not modified; death ensued.

No. 4. *No protection.*—A boy, æt. 14 years, admitted with variola; vaccination about five days previously to the appearance of eruption; the vesicle and the eruption developed side by side; disease not modified; recovery.

No. 5. *Partial protection.*—A child, æt. 14 months, admitted with varioloid; vaccination seven days previously to the appearance of eruption; "took," but not actively; disease only very slightly modified; recovery.

No. 6. *Partial protection.*—A girl, æt. 15 years, admitted with varioloid; vaccination eight days previously to the appearance of eruption; "took" well; disease only slightly modified; recovery.

No. 7. *No protection.*—A girl, æt. 10 years, admitted with variola; vaccination nine days previously to the appearance of eruption; apparently "took;" disease not modified; eruption confluent; death ensued.

No. 8. *No protection.*—An infant, æt. 7 months, admitted without disease, along with its mother, who had smallpox; vaccination after admission; six days subsequently the variola eruption appeared; the vaccine vesicle and the eruption developed side by side; disease not modified; death, preceded by convulsions.

No. 9. *No protection.*—A girl, æt. 23 years, admitted with variola; vaccination eight days previously to the appearance of the eruption; a retarded vesicle developed; disease not modified; eruption confluent; death ensued.

No. 10. *Perfect protection.*—An infant, age not recorded, admitted without disease, in company with its mother, who had smallpox; vaccination shortly before admission; "took" well; enjoyed immunity from smallpox.

No. 11. *Partial protection.*—A youth, æt. 18 years, admitted with varioloid; vaccination eleven days before the appearance of eruption; "took," though not in a typical manner; disease very much modified; recovery.

No. 12. *No protection.*—A girl, æt. 19 years, admitted with variola; vaccination three days before the appearance of eruption; the vesicle and the eruption developed side by side; disease not modified; recovery.

No. 13. *No protection.*—A boy, æt. 14 years, admitted with variola; vaccination three days before the appearance of eruption; the vesicle and the eruption developed side by side; disease not modified; eruption confluent; death ensued.

No. 14. *Partial protection.*—A boy, æt. 12 years, admitted with varioloid, at the first day of the initial fever, in company with members of the same family suffering from smallpox; vaccination seven days before admission, or nine days before the appearance of eruption; "took" tolerably well; disease very much modified; recovery.

No. 15. *No protection.*—A boy, æt. 10 years, admitted with variola; vaccination six days before the appearance of eruption; "took" tolerably well; disease not modified; recovery.

No. 16. *Perfect protection.*—A healthy, well-developed infant was born in hospital, December 13, 1871, of a woman undergoing an attack of smallpox; vaccination was performed on the 13th, 14th, 15th, 16th, and 17th; a small vesicle developed from the last insertion; remained in hospital twenty days; enjoyed immunity from smallpox.

No. 17. *No protection.*—A woman, æt. 31 years, admitted with variola; vaccination eight days before the appearance of eruption; "took," but not very actively; disease not modified; recovery.

No. 18. *No protection.*—A child, æt. 5 years, admitted with variola; vaccination five days before the appearance of eruption; the vesicle and the eruption developed side by side; disease not modified; recovery.

No. 19. *No protection.*—A girl, æt. 16 years, admitted with variola; vaccination nine days before the appearance of eruption; a vesicle very much retarded developed (about five days slower than its usual course); disease not modified; death ensued.

No. 20. *No protection.*—A girl, æt. 18 years, admitted with variola; vaccination four days previously to the appearance of eruption; the vesicle and the eruption developed side by side; disease not modified; death ensued.

No. 21. *Perfect protection.*—A healthy, well-developed infant was born twelve hours before admission, of a woman undergoing an attack of smallpox; vaccination immediately after admission; two insertions on the left arm; on the following day, two insertions were made on the right arm; both of the latter "took" well; remained in hospital twenty-six days; enjoyed immunity from smallpox.

No. 22. *Partial protection.*—An infant, æt. 10 months, admitted with varioloid; vaccination (judging from the appearance of vesicle) about one week before admission; the vesicle and the eruption developed side by side; disease was apparently somewhat modified; recovery.

No. 23. *Partial protection.*—A child, æt. 3 years, admitted with varioloid; vaccination nine days previously to the appearance of eruption; took well; disease modified; recovery.

No. 24. *No protection.*—A boy, æt. 13 years,

admitted with variola; vaccination seven days previously to the appearance of eruption; "took," but not very actively; disease not modified; recovery.

No. 25. *Partial protection.*—A child, æt. 5 years, admitted with varioloid; vaccination ten days previously to the appearance of eruption; "took" well; disease modified; recovery.

No. 26. *No protection.*—An infant, æt. 7 months, admitted with variola; vaccination three days before the appearance of eruption; the vesicle and the eruption developed side by side; disease not modified; death ensued.

No. 27. *No protection.*—A youth, æt. 17 years, admitted with variola; vaccination eight days previously to the appearance of eruption; three retarded vesicles developed; disease not modified; recovery.

No. 28. *Perfect protection.*—An infant, æt. 10 months, admitted without disease February 18, 1872, in company with its mother, who had varioloid, which disease was advanced to the fourth day of eruption; continued to feed from its mother's breast; vaccination was performed immediately after admission; "took" well. February 16, two convulsions; no further sickness; remained in hospital fourteen days; enjoyed immunity from smallpox.

No. 29. *Almost perfect protection.*—An infant, æt. 5 months, admitted without disease, in company with its mother, who had smallpox, and from whose breast it was nursing; vaccination after admission; "took," but not very actively; on the eighth day after vaccination the variola eruption appeared, consisting of only a few papules, which entirely disappeared in a day or two; remained in hospital twenty-six days, at the expiration of which time the child was suddenly seized with convulsions and died. (The convulsions were evidently not the result of smallpox.)

No. 30. *Partial protection.*—An infant, æt. 1 day, admitted without disease, along with its mother, who had just given birth to it prematurely while undergoing an attack of smallpox; vaccination on the same day of its birth; "took" well; nine days subsequently a very light variola eruption appeared; disease modified; during convalescence was seized with convulsions, and died.

No. 31. *Perfect protection.*—A healthy, well-developed infant was born in hospital, April 4, 1872, of a woman who did not have smallpox, but was admitted to take care of a child sick with that disease. The infant was vaccinated both on the 5th and the 6th; four insertions were made, all of which "took" well; remained in hospital twenty-nine days; enjoyed immunity from smallpox.

No. 32. *No protection.*—A child, æt. 3 years, admitted with variola; vaccination four days previously to the appearance of eruption; the vesicle and the eruption developed side by side; disease not modified; death ensued.

No. 33. *Almost perfect protection.*—An infant, æt. 1 month, admitted without disease, in company with its mother and other members of the family, who had smallpox; vaccination after admission; two insertions were made, both of which "took" well; seven days after the vaccination a slight variola eruption appeared, consisting of only three or four small vesicles, which speedily disappeared; all the other symptoms of the disease were also exceedingly slight; in hospital only ten days (counting from the first appearance of eruption).

No. 34. *Partial protection.*—A child, æt. 10 years, admitted with varioloid; vaccination ten days before the appearance of eruption; two insertions were made, both of which "took" tolerably well; disease modified; recovery.

No. 35. *No protection.*—A child, æt. 2 years, admitted with variola; vaccination seven days previously to the appearance of eruption; "took," though not in a typical manner; disease not modified; death ensued.

No. 36. *Perfect protection.*—An infant, æt. 9 months, admitted without disease, in company with members of the same family suffering from smallpox; vaccination after admission; four insertions were made, all of which "took" well; remained in hospital fourteen days; enjoyed immunity from smallpox.

No. 37. *No protection.*—A child, æt. 6 years, admitted with variola; vaccination ten days previously to the appearance of eruption; a retarded vesicle developed; disease not modified; death ensued.

No. 38. *No protection.*—A child, æt. 9 years, admitted with variola; vaccination eleven days previously to the appearance of eruption; a retarded vesicle developed; disease not modified; recovery.

The last two cases were members of one family; they had both been vaccinated at the same time, and, doubtless, with the same virus.

No. 39. *Perfect protection.*—A child, æt. 1 year, admitted without disease, in company with members of the same family suffering from smallpox; vaccination after admission; two insertions were made, both of which "took" well; remained in hospital twenty days; enjoyed immunity from smallpox.

No. 40. *Perfect protection.*—A child, æt. 2 years, admitted without disease, in company with members of the same family suffering from smallpox; vaccination after admission; two insertions were made, both of which "took" well; remained in hospital nineteen days; enjoyed immunity from smallpox.

No. 41. *Partial protection.*—A child, æt. 3½ years, admitted without disease, in company with members of the same family suffering from smallpox; vaccination after admission; two insertions were made, both of which "took" well; five days after vaccination the variola eruption appeared; disease apparently modified; recovery.

No. 42. *Partial protection.*—A girl, æt. 18 years, admitted with varioloid; vaccination eleven days previously to the appearance of eruption; "took," but vesicle was somewhat retarded; disease only slightly modified; recovery.

No. 43. *No protection.*—A girl, æt. 16 years, admitted with variola; vaccination five days previously to the appearance of eruption; the vesicle and the eruption developed side by side; disease not modified; recovery.

No. 44. *No protection.*—A child, æt. 7 years, admitted with variola; vaccination eleven days previously to the appearance of eruption; apparently "took" well; disease not modified; death ensued.

No. 45. *No protection.*—A child, æt. 5 years, admitted with variola; vaccination nine days previously to the appearance of eruption; apparently "took" well; disease not modified; death ensued.

No. 46 *No protection.*—A child, æt 2½ years, admitted with variola; vaccination ten days previously to the appearance of eruption; apparently "took" well; disease not modified; death ensued.

The last three cases were from one family. They had all been vaccinated at the same time, and, doubtless, with the same virus.

No. 47. *No protection.*—An infant, æt. 6 months, admitted with variola; vaccination nine days previously to the appearance of eruption; apparently "took," but not well; disease not modified; death ensued.

No. 48. *No protection.*—A child, æt. 20 months, admitted without disease, in company with members of the same family suffering from smallpox; vaccination after admission; four days subsequently to vaccination the variola eruption appeared; the vesicle and the eruption developed side by side; disease not modified; recovery.

No. 49. *Almost perfect protection.*—An infant, æt. 3 months, admitted without disease, in company with members of the same family suffering from smallpox; vaccination after admission; three insertions were made, all of which "took" well; eleven days subsequently to vaccination, a very light variola eruption appeared, consisting of about a dozen small vesicles which did not advance beyond the vesicular stage; the general health of the child was scarcely at all affected.

No. 50. *No protection.*—A girl, æt. 17 years, admitted with variola; vaccination nine days previously to the appearance of eruption; apparently "took" well; disease not modified; recovery.

An analysis of the above cases shows as follows. Of the fifty cases, ten were perfectly protected, three almost perfectly protected, eleven partially protected, and twenty-six unprotected. Of the eleven partially protected, one died, and that was an infant only a few days old, and of premature birth. Of the twenty-six unprotected, fifteen died: a death-rate of 57.69 per cent. Among those partially protected, the average length of time between the vaccination and the appearance of the variola eruption was 8.9 days; among those in which there was no protection it was 6.9 days.

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TRANSLATIONS.

Transfusion of Blood.—Dr. Monocq, in a work recently laid before the Académie de Médecine, gives a history of the operation and adds some original observations. Impressed by the dangers resulting from the incipient coagulation of the blood which passes from the containing-vessel into the injecting apparatus, Monocq has attempted to devise some means by which the blood can be received from the vein directly into the latter. Monocq's apparatus (a description of which has been, we believe, published before.—Trans.) consists essentially of a pump, into which the blood is received directly from the giver's vein and forced into the vein of the patient. Monocq gives an account of various cases treated successfully by this method, and the committee of the Academy appointed to examine his work credit him with having aided the advance of science in this direction, while not endorsing his views as regards the inferiority of defibrinated blood. Monocq, in fact, asserts that the mechanical process of whipping the blood to deprive it of its fibrin injures at the same time the vitality of the red corpuscles and sets free certain important volatile principles. Defibrinated blood, according to Monocq, has ceased to be blood at all, and has become a liquid incapable of stimulating the tissues or of serving for nutrition. The committee do not agree with him on this point. It seems to them that the defibrinated blood is still almost normal, since, excepting the proportion of fibrin removed, it preserves the relative amounts of its normal constituents, all its globules, all its serum, with the albumen and the plasma from which may be reconstituted the small quantity of fibrin lost. In the opinion of the committee, it is of considerable advantage to operate with defibrinated blood, both on account of the

smaller danger of formation of emboli and also because it is not necessary to use the same haste. So far as apparatus is concerned, the committee believe it possible to use much simpler apparatus than has heretofore been employed, and suggest further investigations in the use of defibrinated blood.—*Bull. de l' Acad. de Méd.*, 1876, p. 1125. X.

THE USE OF ATROPIA IN EPILEPSY.—Among the various remedies which have been tried in epilepsy, atropia long ago found a place. For some reason or another it fell out of use until recently, when Dr. Svetlin has recommended it once more to the notice of the profession. Atropia in small doses diminishes reflex action, and should consequently antagonize that reflex spasm of the vascular centres which is the proximate cause of the epileptic attack. Heretofore atropia has been given in increasing doses and in the form of solution. Dr. Svetlin, however, uses only minute quantities and administers it in pill form, believing the therapeutic effect of the drug given in this form equally decided, while toxic symptoms are not so likely to appear. Dr. Svetlin suggests the following formula: ℞ atropiæ sulph., 0.05 grm. (gr. $\frac{8}{10}$); pulv. et ext. glycyrrhizæ q. s. ut fiat pil. no. 50. Sig., one pill daily. This may be given week in and week out, since in this dose the drug does not bring on any uncomfortable symptoms. — *Wien. Med. Presse*, December 10, 1876, p. 1612. X.

THE FUNCTIONS OF THE CORPORA QUADRIGEMINA.—Dr. Kohts (*Virchow's Archiv*, August, 1876), as a result of his investigations (given in detail in the original article), draws the following conclusions: 1. The centre for the maintenance of equilibrium, upon which the exact co-ordination of parts depends, is, in the case of frogs and fowls, to be placed in the lobi optici, which correspond to the corpora quadrigemina of the higher animals. 2. The posterior corpora quadrigemina are to be regarded as the centres of co-ordination, since injury to these gives rise to irregular complicated movements. 3. It is understood that the disturbance of the muscular sense (ataxy), in case of isolated injuries of the corpora quadrigemina, is frequently dependent upon lesion of the habenulæ, which, according to Meynert's researches, serve as reflex conductors and take their origin from the thalamus and corpora quadrigemina. X.

PHOSPHIDE OF ZINC.—A writer in the *Revue de Thér. Méd.-Chir.*, No. 22, 1876, describes the discovery of this compound, and its employment in medicine. He says that pills containing 8 milligr. ($\frac{1}{8}$ grain), representing 1 milligr. ($\frac{1}{60}$ grain) phosphorus, may be taken without producing any untoward effect, excepting belching of alliaceous air. Two pills may generally be given daily upon a full stomach, increasing the amount gradually until four pills are taken daily. MM. Vigier and Currie propose the following formulæ: ℞ zinci phosphid., gr. xiiss; pulv. glycyrrhiz., gr. iii; syr. acaciæ, gr. xiv. M. Ft. in pil. no. 100. To be silver-coated. These pills each weigh ½ grain, and contain $\frac{1}{80}$ grain theoretical phosphorus, and $\frac{1}{60}$ grain of active phosphorus. Another formula is for the following powder: ℞ zinci phosphid. (in fine powder), gr. vj; pulv. amidou, ℈iv.—M. Divide into fifty packages, each of which contains $\frac{1}{60}$ grain of active phosphorus. X.

ALBUMINURIA PRODUCED BY THE EXTERNAL APPLICATION OF TINCTURE OF IODINE TO INFANTS (Simon and Reynard: *Société de Thérap.*, séance du 6 Mai, 1876).—Sixteen children who suffered with favus were treated by these observers with local applications of iodine and glycerin, and in a short time, in addition to the usual symptoms of iodine-intoxication, iodine was found in the urine of all of them, and in that of four there was a noticeable amount of albumen. When the use of the iodine was discontinued the albuminuria ceased in a few days. In order to arrive at greater certainty in the matter, iodine was painted on the chest of four scrofulous children whose urine was entirely normal. In a few days iodine and albumen appeared in the urine, to vanish again when the application of the tincture was discontinued. The unsuitability of these applications to those who suffer from renal affections, more especially morbus Brightii, is known, and Gubler has called attention to the fact that iodine causes hyperæmia of the kidneys and favors the occurrence of albuminuria. W. A.

THE *British Medical Journal*, Nov. 1876, says that the London Homœopathic Hospital, which a few years since contained sixty-five beds and was filled to overflowing, now contains but twenty-six patients.

DR. J. L. VOGEL commends monobromide of camphor most highly in spermatorrhœa.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, FEBRUARY 17, 1877.

EDITORIAL.

THE GREAT UNPAID.

UNDER the above caption the *Medical Examiner* of London recently discussed the question of unpaid professional labor in the great metropolis. The problem, although ever recurring, is of such vital interest that it fails to become hackneyed. The abuse has not grown in this country to the enormous proportion reached abroad, chiefly because we have no centres of population equal to London; and it is in the centres rather than in the rural districts that unpaid medical labor is so popular with both the laity and the profession, with both recipient and giver. According to the figures given, there are treated annually in London without charge 1,063,000 patients. Even if this be reduced one-half, one person out of six in the metropolis is a charity patient. The *Examiner* calculates the number of hours of service at 57,200. If such service were estimated at what was formerly the legal value of a physician's time in this city, the amount would approximate $300,000. It must be borne in mind, also, that this calculation does not take into account the very large number of unpaid visits given privately by physicians. Figures are wanting to enable us to estimate with accuracy in this city, but there is very little doubt that the unpaid labor, in public and private service, given by the profession amounts to at least one-sixth of all performed. The profession certainly more than lives up to the requirement of the Jewish law, which called for a tenth as a tithe.

IN a late issue the editor of the *Medical and Surgical Reporter* charges, partly by statement and partly by direct implication, the editor of this journal with writing homilies upon fairness in reviewing, and then, because his own book was unsuccessful, spitefully and maliciously reviewing that of Dr. Napheys, although a previous edition had been praised in the *Times*, and presumably by him. Such an attack is rarely worth the notice of an honest man; but the adroitness with which some facts are woven together and others are suppressed in order to produce a false impression warrants the following statements. The treatise of Dr. Wood has been pecuniarily very successful, nearly five thousand copies having been sold in a little over two years; the scope of Modern Therapeutics is such that the two books do not come into competition; the work of Dr. Napheys was never previously reviewed in this journal since the present editor has had control of it; in the review which excited the attack it was directly stated that the most indefensible thing—the misrepresentation of the views of those quoted—in Dr. Napheys's book was apparently the work of the present editor, Dr. Brinton. These facts, except the mere number of copies sold, are matters of such common knowledge that it is scarcely conceivable that they were not known to the editor of the *Medical and Surgical Reporter*.

LEADING ARTICLES.

RECENT PROGRESS IN THE TREATMENT OF VENEREAL DISEASES.

II.—SYPHILIS.

SOME idea may be formed of the activity of writers in the department of venereal diseases when it is stated that, according to the "digest of literature" contained in the *Archives of Dermatology*, there were published during the past year no fewer than one hundred and eighty-six papers on the subject of venereal diseases alone; and this in the current periodicals, besides numerous monographs and complete works. Of course, much of what is

published is, for various reasons, unprofitable; but, eliminating that which is old or useless, there remains a quantity of good work done in this direction which must aid greatly in enlarging the sphere of our knowledge.

The scope of this article will confine attention to those papers which relate to the treatment of syphilis; and we cannot do better than begin with a review of the recent lectures of the veteran Sigmund, "On Recent Additions to the Therapeutics of Syphilis."*

Prof. Sigmund gives an account of the new remedies, internal and external, employed in the Vienna General Hospital during the past ten years, together with new modifications in the employment of old ones. Among the new remedies which were made use of may be mentioned carbolic and salicylic acids, iodoform, and oleate of mercury. Among new methods were suppositories of ung. hydrarg., the combination of chloride of sodium with corrosive sublimate, inhalations of the latter, the subcutaneous injection of several preparations of mercury, and, finally, the combination of frictions with ung. hydrarg. and baths.

Carbolic acid has been found to be useless as an internal remedy, while its continued employment gives rise to gastric disturbance. Externally, for cleansing purposes, it has proved, in Sigmund's hands, very useful, especially in profusely suppurating ulcers. The solution advisable for this purpose contains one part of carbolic acid to one hundred of water. Still more diluted, it may be employed for washing out the nasal cavity in ozæna and also for cleansing the vagina. The experience of the present writer does not bear out the statement above made regarding the efficacy of carbolic acid in suppurating sores, other applications, such as nitrate of silver and liquor sodii chlorinat., having been found of use when carbolic acid has entirely failed. Sigmund also recommends the occasional employment of this remedy in its full strength as a caustic. Salicylic acid has been used in the same manner as carbolic acid, and with similar results.

Bisulphide of carbon has recently been recommended by Guillaumet† in the local treatment of ulcerative syphilis. It is said to cause rapid cicatrization. The following formula possesses the advantages of freedom from the offensive odor which is one of the chief objections to the use of this agent: ℞ carbon. bisulphid., ʒxvj; tr. iodini, ʒiv; ess. menth. virid., gtt. xvj.—M.

Iodoform, so extensively employed for a time, and, in fact, still somewhat generally used in chancroid, finds but little employment in syphilis. Internally it has proved absolutely useless. Externally its offensive odor and the pain aroused by its application are serious objections to its use. It is said, however, that by mixing the powdered iodoform with tannic acid its application may be rendered painless. It is said to be of excellent service in condylomata, and desiccates the pointed variety, so that they are readily rubbed off.

Oleate of mercury, employed in frictions, offers, according to Sigmund, no advantage over ung. hydrarg., excepting lack of color, so that it does not show upon the skin. Van Buren and Keyes,‡ however, consider oleate of mercury the best preparation for the purpose of inunction. According to these authors, it may be used in three strengths, five, ten, and twenty (sometimes thirty) per cent. of the peroxide of mercury combined (chemically) with oleic acid. The five per cent. preparation resembles linseed oil, the twenty per cent. is thick, pasty, and yellowish. Twenty per cent. oleate irritates the skin, but not so much as ung. hydrarg.; it is much more cleanly, and seemingly capable of much more thorough and rapid absorption. Personal experience in the use of the five per cent. oleate as a local application in palmar and plantar syphilis has led to a high appreciation of the value of this preparation by the writer.

Suppositories of ung. hydrarg. are enumerated by Sigmund among the new methods of using mercury, and this form of administering the drug has also been employed by other observers. There seems, however, to be no particular benefit derivable from it, and the suppositories also possess the disadvantage of exciting intestinal catarrh. The combination of chloride of sodium with corrosive sublimate has been administered by the stomach and also hypodermically, but appears to possess no pecu-

* Ueber neuen Behandlungsweisen der Syphilis, Wiener Klinik, Oct. 1876.

† Du Traitement des Ulcérations chroniques, etc., Paris, 1876.

‡ A Practical Treatise on the Surgical Diseases of the Genito-Urinary Organs, including Syphilis, New York, 1874.

liar advantages. Corrosive sublimate dissolved in collodium in the proportion of 1 part to 16–18 has been found very useful as a local application in palmar and plantar syphilis. The parts should be well cleansed with soap and water in the morning, the solution then applied with a camel's-hair pencil, and allowed to remain until evening. It is then washed off with soap and water, and the parts are energetically rubbed with the following ointment: ℞ hydrarg. chlor. corros., gr. xvj; hydrarg. ammoniat., ℈iv; axungiæ porci ad ℥i.—M. Gloves and socks are to be worn over-night. Where there is much infiltration and scaliness, a mixture of empl. saponis and empl. hydrarg. may be substituted for the previous preparation. It is to be kept applied night and day, only washing and pencilling with the collodium as above. This procedure, Sigmund says, will soften the oldest and hardest scales and infiltration.

Alcoholic and ethereal solutions of corrosive sublimate in various strengths, when used with circumspection, form a certain and rapid means for the cauterization of papules and fissures, as well as erosions of the mucous membrane both of the mouth and pharynx, particularly the tongue and lips. Used carefully, these preparations are superior to nitrate of silver. Inhalations of the corrosive sublimate as a local remedy in pharyngeal and laryngeal troubles are valuable; as a means of influencing the system at large this method is useless, since the inhalations, even when much diluted, are not tolerated for any length of time.

The treatment of syphilis by means of hypodermic injections of mercury was introduced by Lewin nearly ten years ago. The method was at first received with enthusiasm, but the many drawbacks to its employment counterbalance, in the opinion of most syphilographers, the advantages gained by its use.

The advantages claimed for the hypodermic method are: the rapidity with which the system comes under the influence of the mercury, the applicability of injections in cases where the drug cannot be introduced by the mouth, and the fact that by this method the stomach is left undisturbed, so that tonics, etc., can be simultaneously administered. The objections are the pain of the operation itself, which causes many patients to refuse it entirely, and, moreover, the subsequent formation of indurations and abscesses, sometimes as large as a walnut. These, according to the testimony of numerous observers, are extremely common, even when every precaution is taken. The method may perhaps be employed with advantage in army practice and in certain hospitals where the patient is completely under the control of the physician; but it has not found, nor is it likely in the future to find, extended employment in general practice.

The combination of hygienic measures with specific treatment has of late years been more frequent than formerly, and those particular measures included under the term hydro-therapeutics are receiving increased attention. It is in those cases where syphilis is complicated by various "taints," as scrofula, tuberculosis, etc., that health resorts and hydro-therapeutics prove most beneficial. In connection with baths, inunction has very usually been practised, and, although some allusion has been made to this method, it seems desirable that something more should be stated regarding our present knowledge of this method of administering mercury.

Though inunctions have been practised in the early history of syphilis and from time to time until the present, yet this method of cure had fallen into abeyance when Sigmund took it up and brought it once more prominently before the profession. His present method of conducting the treatment by inunction is as follows. The patient takes a hot bath in the morning; then, after a rest of one to two hours, the frictions are made in the usual way, covering a given portion of the body and limbs each day in turn, so that the skin of no one locality shall be so frequently rubbed as to be sore. Panas* thinks that the rapidity and certainty with which mercurial frictions accomplish their object far outweigh the alleged disadvantages of the procedure. According to Panas, all mercurial salts taken by the mouth are decomposed in the alimentary canal, and undergo further disorganization in passing through the liver. In the friction treatment, however, the mercury passes directly into the circulation. Stomatitis may be avoided by the frequent use of strongly-astringent tooth-powders and mouth-washes. Panas advises that the vapor-bath be used bi-weekly during the course of the friction treatment, not only

* Traitement de la Syphilis par des Frictions mercuriales.—Jour. de Méd. et Chir.; Abstract, Archives of Dermatology, v. i., 1875, p. 164.

with the view of aiding the effect of the mercury, but also because it is useful in preventing ptyalism. He thinks inunction particularly useful in infantile syphilis. The usual quantity of ung. hydrarg. advised is ninety grains daily.

Fournier* gives only a qualified approval to the use of inunction, regarding it as a dirty and disagreeable treatment. The employment of oleate of mercury, however, does away with this objection, in part at least. In fact, the difficulty is rather to induce the patient to follow out the treatment with thoroughness and care; and here lies the objection to all forms of treatment requiring manual exertion on the part of the patient,—that outside of a hospital it is very difficult to get the procedure thoroughly carried out. Patients will take powders, pills, or potions, week in and week out, but can only exceptionally be induced to keep up a plan of treatment which requires daily personal manipulation. A plan of getting these substances into the system without unnecessary labor on the part of the patient, is to have him smear them thickly over the soles of the feet on rising in the morning, and then, putting on stockings and shoes, go about as usual. By this means the inunction is automatically carried on until the remedy has penetrated the organism. Fournier speaks of the rapid production of mercurial stomatitis in the course of the inunction treatment; but his opinion in this respect is not borne out by the observation of others. A considerable experience of the inunction method has failed to reveal to the writer a single case where stomatitis to any marked degree has been brought about during the course of this treatment. Precautions, in the way of astringent mouth-washes, etc., are very proper, and the patient's mouth should be frequently and carefully examined. Inunctions are admitted by Fournier to be useful in the following cases:

1. In case of serious lesions, which it is necessary to act upon surely and rapidly.

2. In cases which are rebellious to other methods.

3. In cases in which mercury is not tolerated by the stomach.

There can be no question but that inunction is the method *par excellence* in iritis. Cases are not infrequently met where, the internal use of mercury having proved of no avail, the employment of inunctions is followed by a rapid and satisfactory result.

A. Van Harlingen.

(To be continued.)

* Leçons sur la Syphilis, étudiée particulièrement chez la Femme, Paris, 1873.

CORRESPONDENCE.

LONDON LETTER.

The prevalent feeling here is one of depression. There was an old proverb to the effect that "a green Yule makes a fat kirkyard," but of course modern progress has reversed the decision of the sages of the past on this as well as on most other matters; whether decisively or not remains to be seen. Anyhow, this Christmas and New-Year will be long remembered for the most disastrous floods. Not in one county or congeries of counties, but from every side, come accounts of floods, each seemingly more disastrous than the other. The basins of watersheds, the margins of rivers, the flat meadows of the midlands, are alike waterlogged. Of course the most severe floods are felt where the onward progress of the waste waters is arrested by the tides, and incalculable misery has been caused by the unwonted rainfall. After a brief cessation the rain comes on again just as heavily and with as thorough a down-pour as is usual at the end of a long spell of drought when the weather breaks. The scientific interest in the subject is, what will be the consequences of these floods upon the public health?

The temperature has been exceedingly mild through it all, and fires on many days have been felt quite oppressive. Whether it is the low temperature, or what, the smallpox is increasing steadily, especially in the southern and eastern districts. The hospitals are all full, and many patients must be nursed where they are and however unsuitable their habitations, simply because there is no further accommodation for them. The authorities are taking all possible steps to provide the requisite accommodation, but the progress of the malady is still swifter than their action. It is astonishing to see how the skeptical on the subject of vaccination are converted to other views by the close propinquity of smallpox. The example set by her Majesty in having herself and all the royal household at Windsor vaccinated is an excellent one, and one which will be largely followed by many who have not capacity enough to have the operation performed simply on its merits.

The Lettsomian Lectures of the Medical Society have been commenced. They are delivered this year by Dr. Alfred Wiltshire, who has chosen the subject of "vascular rhythm." He first showed that the catamenial flow was not merely a local increase of vascularity, but

a state of general vascular excitement. Nævi became of a brighter hue during this time, and blood oozed from the cicatrices. There were, too, the instances of vicarious menstruation and the internal hemorrhages so frequent at this time. He exhibited sphygmographic tracings of the changes in vascular tension found at this period, and also thermometric observations. These latter are very instructive. Menstruation is irregular in idiots, and Dr. Langdon Down, at his private asylum for idiots, finds that by taking regular thermometric observations the attendants can always note when the catamenia are impending. Dr. Wiltshire then proceeded to discuss the nervous relations of this rhythmic vasular excitement. He seemed inclined to think that the periodical disturbances in the insane attributed to lunar influence were and are really due to this catamenial excitement, or at least to rhythmic vascular turgescence. The subject is one of great interest from a practical point of view.

Dr. Storer, of Boston, has contributed a valuable paper to the *Edinburgh Medical Journal*, this month, on "The Uterine Ebb," in which he points out that there is a uterine high-tide and ebb, the one before and the other after the menstrual flow. The influence exercised over the results of operations, etc., by this tidal action is very great. It has long been known in practice that it was unwise to operate upon a woman before or during her periodical fluxes, and that the results were much more satisfactory when the operation was performed after the flux; but now the subject is transferred from empiricism to a safer scientific ground. The rules which should guide operators upon the female sex are now being fairly cleared up, and, if the line of inquiry opened by Dr. Wiltshire be carried out fully, there seems every reason to expect that much valuable information will be gained about the perturbations to which women are subject when the catamenia themselves are absent and yet there is rhythmic disturbance in action. It would seem probable that by means of careful observation these times may be noted and avoided in women who have amenorrhœa or in whom the catamenia have ceased,—and as a consequence will follow improved results in operative procedures upon women. The subject is not of scientific interest only, but will probably furnish the most valuable practical results. As I pointed out in the case of Cæsarean section recorded in a recent letter, there are many things to be considered, in performing an operation, beyond the mere manner of operation and the minor details which belong to "the carpentry of surgery:" there is the individual, and all that belongs thereto,—often the chief factor in the result, but too often almost entirely overlooked in the calculation.

The subject of color-blindness is one which is not only interesting in itself, but one which is fraught with an intense practical interest for all who travel by railroad. A recent railway accident at Christmas could only be accounted for on the hypothesis that the driver of the express had been oblivious of the fact that the signals were against him until he came to the second set, when it was too late to avoid the collision. The man himself and his stoker were both killed on the spot, and so there is an open field for speculation. The driver was in perfect health, and was spoken to by the superintendent as the train started on its journey: so that there was no suspicion of any drunkenness. The man's general character was excellent, and his watchfulness unimpeachable: so the hypothesis of color-blindness has been started. There is a very prevalent belief that color-blindness, or Daltonism, is a common affection; and, with our present dependence upon colored signal-lights, it is a matter of the greatest moment to ascertain the real facts of the case. The matter has been taken up by Mr. Herbert Page, of St. Mary's Hospital, who is also surgeon to the great London and Northwestern Railway Company. He shows that of eight hundred men examined by himself no single one was the subject of true color-blindness. He found that in a large number of instances the men gave the wrong name simply from lack of familiarity with the mere name; but when asked to name some natural object of like color they were found to distinguish the color quite properly. Mr. Page's observations are borne out by those of his father, who has been the surgeon of the northernmost section of the same railroad company since its first formation, and who has found "only three cases of well-marked color-blindness out of the many hundreds he has examined."

It is very desirable that this matter should be examined to the very bottom and the facts placed beyond doubt or cavil. It is not to be expected, in the present state of human nature at least, that an aspirant for a situation will throw away his chances of securing the coveted post by voluntarily announcing any imperfection in his vision; consequently, the railway companies must subject their candidates to the most searching examination, if only in self-defence against preventable accidents. To any one who looks out at the multitudinous signal-lights at London Bridge or Clapham Junction, it at first sight would seem impossible for any human eye to discriminate the correct state of affairs, or to be able to distinguish safely amidst the bewildering mass of various-colored signals; and yet it is done, with a safety and certainty which seem little less than marvellous, by imperfectly educated men, every night and morning of their lives. The very facts of railway travelling would seem to indicate that color-blindness does not exist to any appreciable extent.

The present season is that *par excellence* of coughs, colds, and affections of the air-tubes. It may not be out of place, then, to review the

subject of catarrhs, especially in relation to the points to be attended to in their treatment. It will be found that there are several well-marked stages, each of which demands its appropriate treatment, and if the treatment suitable enough to one stage be adopted during a truly anterior stage the results are unsatisfactory. This was strongly brought before my attention recently by a prescription handed to an out-patient who was in the first stage of a bronchial catarrh. It consisted of the ordinary squill-mixture of the hospitals (squill and paregoric), which would have been quite appropriate to a more advanced stage, but which was quite unsuited to the then condition of the patient. The first stage of disturbance is that of congestion of the mucous lining membrane of the air-tubes. The membrane is swollen and dry; it is vascular, but all secretion, or almost all, is arrested; a little glairy mucus streaked with blood is all that is expectorated after much and distressing coughing. There is some difficulty of breathing, for this swollen condition of the mucous membrane diminishes the calibre of the finer air-tubes, while at the same time the dry, irritable condition of the membrane excites much reflex cough, as useless as it is troublesome. There is more or less general disturbance, with some fever and a dry skin. This first stage is succeeded by the second, where there is a moist condition of the membrane and free secretion and the accumulated mucus is readily and easily expectorated. But it commonly enough happens that the first stage is persistent, and remains for some days, causing much suffering and distress. The patient is subject to long paroxysms of coughing, which are very exhausting, but without affording any real relief. The active efforts of coughing cease for a time from sheer muscular exhaustion, but the source of the irritation is unremoved, and ere long another paroxysm of futile coughing is set up. This goes on until the patient is often seriously ill before any amendment is inaugurated. In some cases this stage lasts for two or three weeks, the patient being confined to bed, ere the second stage is inaugurated. As soon, however, as the secretion becomes free, the case passes swiftly onward through its more advanced stages towards convalescence. The pathology of this condition points to the remedial measures to be used. The agents to be employed here are the vascular depressants and the nauseant diaphoretics. The first indication to be fulfilled is to relax thoroughly the vascular system, so that the local turgescence may be relieved. For this purpose antimonial wine, iodide of potassium, ipecacuanha wine, and acetate of ammonia are used, either singly or combined. They should be given in full doses until the skin is moist. The dryness of the bronchial membrane remains as long as the skin is dry, and the agents which relax the skin are those which will relieve the bronchial membrane, with the exception of opium; consequently opium is especially unsuited for the purpose of relieving the first stage of bronchitis. It will check the cough, truly, to some extent, but if it does so it does more harm than good. It abates the cough, but it leaves the condition on which the cough depends not only unrelieved but, if anything, aggravated. The patient should have the above-mentioned remedies—with small doses of tincture of aconite if the pulse be full—until the skin is thoroughly moist. It is well also to put the patient to bed, and aid the action of the remedies given internally by the application of moist heat to the skin. Hot bottles in moist—not wet—woollen wrappers may be placed around the patient in bed with great advantage. At the same time it is well to soothe the dry irritable bronchial membrane by the inhalation of steam. In some cases a poultice to the chest is useful, and in obstinate cases it is well to rub the chest with croton-oil liniment or other counter-irritant before applying the poultices. This last is very desirable where this first stage has lasted many days and a feeling of "rawness" is experienced from the prolonged mucous congestion. By these different measures combined, the bronchial membrane is relaxed, secretion becomes free, and, though the air-tubes are more or less choked with the mucous secretion, the breathing is freer, because the membrane is less congested and the calibre of the tubes once more near the norm. After the secretion has once become free and readily expectorated, then a totally different line of treatment is to be adopted. To a great extent it becomes a question of endurance; and if the patient's powers are equal to the strain put upon them, of having to breathe through more or less choked air-tubes only kept open by repeated coughing, and of broken sleep in consequence, then all is well. To maintain the powers, good food, stimulants, and stimulant expectorants are needed, and that, too, in no stinted quantity. Ammonia, spirits of chloroform, and senega, or spirits of chloroform with the mineral acids and syrup of squills, are excellent measures. All hypnotics are to be scrupulously avoided; for if the breathing were only unobstructed the patient would soon be in a deep sleep without any narcotic. To give an hypnotic is to prostrate the voluntary efforts, and so to lead to a condition of great peril from the air-tubes being blocked up. The obstruction caused to the flow of the pulmonary circulation in a severe attack of bronchitis often puts a great strain upon the right heart, and leaves the patient in a more or less crippled condition for a long time after. Indeed, the dyspnœa which remains is as much due to dilatation and enfeeblement of the right heart as to emphysema. If an elderly person, already the subject of some valvular disease, has a severe attack of bronchitis, he will very probably die from failure of the right heart;

and in such patients digitalis must be added to the expectorants as soon as ever the first stage is over. (The treatment of the first stage should be conducted with as little resort to vascular depressants as is practicable.) By such use of digitalis many cases may be steered to convalescence which would otherwise almost certainly succumb. The same holds good of the very common cases of winter bronchitis where there is also emphysema and a chronically dilated right heart. These patients are usually gray-haired, the skin is dry, their arteries are prominent and tortuous, and the eye is leaden and not rarely possesses more or less of an arcus senilis. They are free from their cough and expectoration as long as the weather is genial, but with the oncome of cold their cough returns. These patients are almost always the subject of chronic renal changes, as their arterial system testifies, and ordinary cough-mixtures are useless with them. The best mixture for these cases is a little iodide of potassium, with bicarbonate of potash, some digitalis, or a very full dose of tincture of squill in some balsamic mixture, as ammoniacum or guaiacum. Each dose should be taken with a draught of water, and in a few days relief is usually afforded. These cases are seen in greatest number in cold, frosty weather; they improve when the weather becomes milder, and are back again as the cold returns. When spring is thoroughly established they are lost sight of, but they return in winter like the frosted window-pane. It is well, too, to give these patients cod-liver oil. As the most readily assimilated of all fats, they readily digest it, and in its combustion they find a grateful increment of animal heat. The oil is of as great use here as in any case of phthisis, for the stomach is enfeebled by the venous congestion caused by the obstruction to the blood-flow throughout the lungs; while these patients have a difficulty in keeping up their temperature from the impaired chemical interchanges going on in their crippled respiratory organs, and a readily oxidizable food is very necessary for them. It is a matter of considerable question whether astringents are of much service in the treatment of the rheum which is apt to remain after the inflammatory action has passed away. Small doses of opium with balsamic expectorants may be indicated, but warm, pleasant air is to be preferred when the patient can make the desired change of residence. In the subjects of winter bronchitis warm woollen clothing is absolutely essential to their well-being. The question of the use of opium or morphia in these cases to secure sleep at night is one admitting of many considerations. Though Dr. Loomis has shown that opium is not the dangerous agent in renal disease that it has been held to be by many, still there is no doubt that it is an unsafe measure with many who suffer from chronic disease of the kidneys. In the cases just mentioned, a small dose of opium or morphia at bedtime is often useful. It is well to combine one-sixth of a grain of morphia with a grain of powdered ipecacuanha and three grains of guaiacum in powder in any vehicle, say aloes and myrrh pill, to form a pill to be taken at bedtime. This pill, together with the potash expectorant mixture given above, is in many cases of great service to the patient. Such are the measures which seem best suited to a class of cases which do not yield to the ordinary expectorant mixtures, and which certainly are not benefited by the use of mineral astringents, zinc, etc., though these drugs may do good as tonics in improving the general condition.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, DECEMBER 14, 1876.

THE PRESIDENT, DR. H. LENOX HODGE, in the chair.

REPORT of the Committee on Dr. Wm. Pepper's case of extra-uterine pregnancy. (See original communication in next number of the *Times*.)

Specimens from two cases of combined heart and kidney disease. By Dr. LOUIS STARR.

Case I.—Lizzie C., æt. 24, single, a "book-sewer" by occupation, was admitted to the Episcopal Hospital on November 11, 1876. She had a bad family record, her mother having died of cardiac disease, and her father from some chronic illness the nature of which could not be ascertained. Her own health had been moderately good, dating from an attack of scarlet fever, unaccompanied by dropsy, which occurred during her childhood, up to 1872, when she began to notice that her work was becoming more irksome and that she was more readily fatigued. There was no further indication of ill health, however, until 1873, when micturition became so frequent as to attract her attention, and there was some puffiness of the eyelids and slight œdema of the feet and ankles. The latter symptoms disappeared under treatment, and she was able to keep at her trade, though interrupted by several short attacks of subacute rheumatism, until the summer of 1875. At this date the œdema reappeared, the general debility increased so that she was obliged to give up work, and she commenced to suffer from palpitation of the heart and dyspnœa on exertion, together with impaired digestion and frequent vomiting. Several months before coming into the hospital her sight began to fail, and the menstrual flow, which had previously been perfectly regular, ceased.

When admitted, the patient complained of headache, indistinctness of vision, affecting chiefly the left eye, great prostration, and pain

over the region of the kidneys. The skin was waxy in hue, the mucous membranes were pale, the eyelids somewhat puffy, and the feet and ankles œdematous. Her tongue was covered with a light fur, and there were anorexia, nausea, vomiting, and a tendency to constipation. There was no cough, but any effort was followed by shortness of breath, and palpitation. The pulse was somewhat irregular, and counted about one hundred beats per minute. The cardiac impulse could be seen and felt over the whole of the præcordial region, and the apex-beat was situated in the fifth interspace, just within the line of the left nipple. Both sounds of the heart were accentuated, and at the aortic cartilage a soft systolic murmur was detected. The lungs were healthy. The urine, which was voided freely, deposited, on standing, a reddish flocculent sediment, and on examination was found to contain blood and albumen, with fragments of what appeared to be granular and blood casts.

For the first two days after admission (November 12 and 13) the vomiting grew more frequent, and on the 14th the stomach rejected nearly everything introduced into it; at the same time the urine became more bloody, and the quantity passed was reduced to thirty-two ounces per diem; there was also dryness of the skin, augmented surface-temperature, slight stupor, and spasmodic action of the muscles of the face and extremities. These symptoms were relieved by free diaphoresis, induced by steam-baths, the vomiting stopping entirely, the urine becoming less bloody and increasing to forty-eight ounces, and the stupor and muscular twitching disappearing to a great extent. On the morning of November 17 the above symptoms returned, attended by a trifling hemorrhage from the nose, and in the afternoon the muscular spasms became violent and constant, culminating in a general convulsion at 4 P.M. This convulsion lasted a few moments only, but was followed by another at 7 P.M. which was much longer and more severe. Immediately after the second convulsion the patient began to expectorate small mouthfuls of liquid or recently-clotted blood, and continued to do so at short intervals, in spite of the employment of astringents, until noon on the 18th. At this time, although there was no bleeding from the anterior nares, it was evident that the hemorrhage did not come from the stomach, as had been supposed, but from the nose, the blood flowing from the posterior nares into the mouth. Accordingly, the nostrils were plugged with the aid of a Belloque's canula, and the bleeding was controlled at once.

The weakness resulting from the loss of so much blood, added to the previously existing debility, had brought about a condition of extreme prostration. The patient answered when spoken to, but otherwise seemed to be indifferent to what was passing around her. The pupils were contracted, the lips blanched, the nose and extremities cold, and the surface of the body bathed in a clammy sweat; the pulse was 108, and very feeble, and the aortic murmur less distinct than before; the respiration was slow and irregular; there was frequent hiccough, convulsive movements of the hands, and the urine and fæces were evacuated involuntarily. On November 19 there was little change in her condition, except that the respiration was more irregular, presenting the peculiar *tidal* character sometimes observed in cases of cardiac failure, and several purpuric spots were noticed on the tongue and face. A microscopical examination of the blood showed no increase in the number of white corpuscles. The plugs were removed from the nose early in the day, as there seemed to be no further need of their presence. On November 20 there was considerable improvement, her mind being clearer, the breathing more natural, and the pulse slower and stronger. A specimen of her urine, withdrawn by means of a catheter, was high-colored, neutral in reaction, had a sp. gr. of 1012, and contained a large quantity of albumen, about three-fifths of bulk tested, but was less smoky than before. The microscope revealed red and white blood-corpuscles, with granular and small hyaline casts. The quantity could not be estimated, as it was still passed involuntarily.

During the 21st and 22d the improvement continued; the bladder and rectum were no longer evacuated involuntarily, the blood disappeared from the urine, and her sight, which had suddenly grown worse after the occurrence of the convulsions, became better. On the 23d the adynamic symptoms reappeared, and death took place early on the 24th, preceded by a convulsion.

The *post-mortem* examination was made five hours after death. The lungs were perfectly healthy, and there were no pleuritic adhesions. There was a small quantity of fluid in the pericardial cavity. The heart was large, weighing eleven and a half ounces, the increase in size being, for the most part, due to simple hypertrophy of the left ventricle, the wall of which was nearly double its natural thickness. All the valves were normal, but there were several patches of atheroma about the orifice of the coronary arteries. The liver was enlarged and congested.

The kidneys were dense and lobulated, and weighed together four and a quarter ounces, the right being about one-third smaller than the left. Their exterior surfaces were rough, their capsules opaque and adherent, and upon section the cortical portions were found to be greatly reduced in thickness, forming merely a narrow border around the pyramids, which were closer together and less distinct in outline than usual. These changes were most marked in the right kidney; in this, also, the small arteries were very prominent. The rest of the abdominal viscera were free from lesion.

Case II.—Wm. W., æt. 68, a shoemaker, was admitted to the medical ward of the Episcopal Hospital on October 6, 1876. He denied ever having syphilis, and, although addicted to drinking in early life, had been perfectly temperate for about twenty years. His health had been remarkably good until 1870, when he had an attack of acute articular rheumatism. Three years later, while excited at a camp-meeting, he was seized with pain in the region of the heart, palpitation, and shortness of breath. Afterwards he noticed that the same symptoms were produced by any unusual effort, and, as he began to grow weak and unfit for work, he applied for relief at the Presbyterian Hospital. Here he remained for two months, and when discharged was much improved in strength, though still subject to attacks of pain, palpitation, and dyspnœa, on exertion. He resumed work, but slowly relapsed into his former condition, and in December, 1874, was admitted to the Episcopal Hospital. He again improved under treatment, and, for several months after leaving, enjoyed better health than at any time since the commencement of his sickness. In the fall of 1875, paroxysms of palpitation and dyspnœa again began to occur frequently, and were soon associated with œdema of the feet and legs, a condition that had hitherto been entirely absent. The œdema, which at first was trifling, disappearing entirely after a few hours' rest in bed, gradually became permanent, and, together with the symptoms of cardiac failure, slowly increased in severity up to the time of his readmission to the Episcopal Hospital. At this date there were extreme anæmia and weakness, considerable ascites, œdema of the feet and legs, severe orthopnœa, occurring in paroxysms, and diarrhœa. The pulse was feeble and irregular. The urine was passed in small quantities, and was high-colored and albuminous.

When I first saw the patient, on October 20, he was much stronger and less anæmic than before, and there was only a small collection of fluid in the peritoneal cavity, though the legs and genitals were very œdematous. The respiration was frequent, twenty-eight per minute, and somewhat labored, but there was no orthopnœa, and, with the exception of sonorous bronchial râles, none of the physical signs of pulmonary disease could be detected. The pulse was sixty-four, very weak and irregular, the impulse of the heart could scarcely be felt, and on auscultation a systolic aortic murmur was discovered. The urine was cloudy, had a sp. gr. of 1030, contained a small quantity of albumen, and numerous granular and hyaline casts, and the amount voided was about twenty-two ounces in twenty-four hours.

From October 20 to November 15 his condition grew better, the pulse becoming fuller and more regular, the œdema lessening, and the urine increasing in quantity. Subsequently the dropsy increased rapidly, orthopnœa returned, the pulse became almost imperceptible, œdema of the lungs set in, and death occurred on November 23.

The *autopsy* was made fifteen hours after death. When the thorax was opened, the left lung was found to be adherent over its whole surface to the chest-wall, and was removed with some trouble. It was heavy, pitted on pressure, and on section a sero-sanguinolent liquid escaped in abundance. The right lung was somewhat compressed by an accumulation of liquid in the pleural cavity, and was slightly œdematous.

The pericardium was thickened and contained a small amount of straw-colored fluid. The heart was greatly enlarged, weighing fifteen and a half ounces, but its tissue was pale and devoid of firmness. The wall of the left ventricle was hypertrophied, and its cavity much dilated; the right ventricle was also dilated, while its wall was scarcely thicker than normal; both auricular cavities were increased in size. Two of the leaflets of the aortic valve were rigid, and could not be readily turned back against the aorta: this rigidity was due to atheroma, which, however, involved only the outer two-thirds of the leaflets, leaving the free margins unaffected. The cardiac surfaces of these segments were smooth, but upon their upper or arterial surfaces hard calcareous plates could be felt. The edges of the mitral valve were thickened. The tricuspid and pulmonary valves presented no alterations, except that two of the leaflets of the latter were slightly fenestrated. The aorta, for a considerable distance from the heart, was in a state of advanced atheromatous degeneration, and its internal surface was dark red in color. The orifices of the coronary arteries were surrounded by calcareous rings, and the vessels themselves were dilated and converted into brittle and rigid tubes.

There was a large collection of fluid in the abdominal cavity.

The liver was somewhat contracted.

The kidneys weighed together eight and three-quarter ounces, the right being slightly and the left considerably smaller than normal. They were lobulated and congested, their capsules, though thickened, were easily detached, and their cortical portions were reduced in thickness. The right kidney contained several small cysts, and the left had a peculiar shape, its central portion being constricted and knotted. The other abdominal organs were healthy.

From the clinical history and the post-mortem appearances in the first case, it is evident that the lesion of the heart was secondary to that of the kidneys; in the second case, on the other hand, the alteration in the kidneys was most probably due to congestion, depending upon cardiac failure.

A microscopical examination of these organs was made by Dr. Simes, Pathologist of the Episcopal Hospital, who reported as follows:

Case I.—*Kidneys.* There is a great increase of the interstitial connective tissue. The uriniferous tubules are in places widely separated, and, together with the capsules of the Malpighian bodies and the blood-vessels, are surrounded by a dense fibrous tissue.

Case II.—*Heart.* The tissue of this organ is in a state of fatty degeneration.

Kidneys. These present the same pathological changes as found in a somewhat advanced stage of interstitial nephritis.

Intra-thoracic cancer, involving pleura, diaphragm, and chest-walls. By Dr. WILLIAM PEPPER.

The case was under the care of Dr. Yarrow, with whom I had the pleasure of seeing it in consultation. The patient, aged 56 years, was in active business. He was free from any predisposition to cancerous disease. He had been subject for years to a bronchial cough. He saw Dr. Yarrow on May 10, 1876, for a malarial trouble which lasted two weeks. He then convalesced, and was lost sight of for six weeks. Dr. Yarrow was then again called in to see him, and found evidence of marked effusion on the right side, which caused violent orthopnœa. The physical signs were localized chest-pain, absence of respiratory sound, and dulness on the right side. These signs gradually diminished, and in one month he was much better: there was return of resonance, diminution in pain, and much improvement in general health. During the whole period of his sickness there was marked disturbance of the liver, with a heavily-coated tongue, torpid bowels, and scanty urine. He commenced going out, and then there occurred a second effusion, causing dangerous orthopnœa. This occurred about the 10th to the 15th of September. There then appeared, for the first time, distinct prominences, with severe pain. The *first* prominence appeared over the ninth right rib posteriorly, four inches from the spine. The *second* appeared below the sternal end of the right clavicle; the *third* on the right side, in line of armpit, about the tenth rib. The signs of this last effusion never entirely disappeared, and there was no cessation of pain.

In the early part of October, when I first saw him, the symptoms were as follows. Great emaciation and profuse general sweating. (At the time of the first effusion the heart's action was frequent and irregular, continuing so until the close of the case.) There was no cachexia, but great pallor. Temperature not taken. The sweatings were so profuse as to require on some days that the clothing should be changed three times. This was not daily. It was at irregular periods. Sleep was disturbed by the intense pain. This pain was constant, but also had paroxysms. It coincided chiefly with the prominences, but extended down also the nerves of the right arm. There was a severe dry cough. The pulse was frequent and feeble; right side of chest enlarged. Movement impaired, but not lost. Dulness irregularly distributed over it. Apex in front dull. Resonance down to about the fifth rib; not quite so low on side. Posteriorly, flatness from spine of scapula down. Respiratory sounds corresponded. Over dull area behind, feeble distant breathing, slightly bronchial. Over resonant areas, healthy murmur. Change of position produced no effect at all. A trocar was introduced through the eighth interspace posteriorly, about line of scapula. About one pint of clear serum was drawn off. Towards the close the fluid was nearly pure blood, and the canula was withdrawn. This afforded some relief, especially from the pain, but did not affect the physical signs, except that the murmur and vocal fremitus became more distinct behind. The heart was too far to the left. It was outside of the nipple. There was increased dulness there and along the sternum. No distention of the veins of face, neck, or right arm. Heart's action frequent and feeble; no murmurs. There was a second operation performed at the same point as the first, with no result.

The prominences increased. No further effusion existed. From this date to December 11, 1876, about five weeks, he progressively failed in flesh and strength. There was great pain, which required large doses of morphia by mouth and hypodermically to relieve. The cough became worse. There were muco-purulent sputa. Slight œdema appeared, and death occurred.

At the *autopsy*, the chest and abdomen were examined. The left lung was healthy, but congested. The heart was pushed somewhat towards the left side. A large mass of morbid growth, resembling an encephaloid sarcoma, lay in the anterior mediastinum, attached to the posterior surface of sternum, and also to the outside of the pericardium. On opening the sac, there was about a gill of bloody serum, and both layers of the pericardium presented marked lesions of old inflammation. There was no disease of the valves. On the right side, corresponding with the prominences already described, were extensive cancerous masses. In the case of the one over the apex in front, the morbid growth also involved the intercostal tissues and the second and third ribs. The mass on the posterior surface was very large and extensive, and involved both layers of pleura, and also the superficial layer of lung-tissue at a few points. It reached from about the third rib down to near the diaphragm, and was fully one inch thick in some places. The mass low down on the side was smaller, also involved both layers of pleura, and was continuous with a large growth which involved the whole thickness of the diaphragm. The anterior part of this muscle was chiefly affected; the growth in places was fully one-half to two inches in thickness, and the disease extended across to median line, where it was continuous with the mediastinal growth

before described. At one spot over the convexity of liver there was an extension of cancerous disease to the capsule and superficial layer of the tissue of that organ.

There was no pleural effusion. The lung itself presented but a few comparatively small nodules of cancerous formation, and for the most part was crepitant. Along the posterior surface and at the apex it was intensely congested and œdematous. At the point of the first puncture there were pleural adhesions, showing that there had been no attempt to reproduce the effusion which was withdrawn by paracentesis.

The liver was enlarged, congested, and somewhat indurated and granular. With the exception of the small patch above described, there was no cancerous disease of its tissue.

The remaining abdominal organs were healthy.

The body presented only a moderate degree of emaciation, considerable amount of fat remaining, especially in the omentum and abdominal walls.

(To be continued.)

GLEANINGS FROM EXCHANGES.

POPLITEAL ANEURISM CURED BY THE APPLICATION OF ESMARCH'S BANDAGE (*Boston Med. and Surg. Jour.*, Dec. 28, 1876).—Dr. Walter Reid reports a case of popliteal aneurism of three weeks' standing cured in this manner. The aneurism was of considerable size, and occurred in a healthy seaman of middle age. After numerous attempts with various forms of compression which failed to arrest the pulsations, Esmarch's bandage was applied to the whole limb, the aneurism being passed over lightly. The limb assumed a death-like pallor, and its temperature diminished. The aneurism remained of its usual size, but was pulseless. The elastic tubing was removed at the end of fifty minutes, and a Carte's compressor was substituted. On raising the latter, a few minutes later, no pulsation was detected. Light and intermittent compression was continued during that day and the next. The pulsation did not return. Dr. Reid suggests that "the loss of temperature, and that particular condition of the tissues closely allied to death, may have had some effect in the formation of the coagulum." The use of Esmarch's bandage in a case of necrosis, when the operation had lasted over an hour without evil result following, had suggested to him the practicability of the application of this bandage where it was necessary to arrest the circulation for a considerable length of time.

Another case treated in the same way occurred under the care of Mr. Wagstaffe, at St. Thomas's Hospital. A barman, aged thirty-two years, when pushing a heavy cask some five months previously, had felt "something snap" in his right popliteal space. On admission there existed a pulsating tumor at that point two inches long, filling the upper half of the space, terminating opposite the junction of the femur with the tibia, together with considerable œdema of the leg. An Esmarch's bandage was applied tightly over the foot and leg up to the lower border of the popliteal space, carried lightly over the tumor (a thin layer of cotton-wool intervening), and then continued tightly over the thigh to within three inches and a half of Poupart's ligament. The bandage was left on for one hour, during which time the patient was very restless and complained of pain. One-third of a grain of morphia was given subcutaneously. At the end of this time a tourniquet was placed on the femoral artery, and Esmarch's bandage removed. A second tourniquet alternated with the first, and pressure continued for twenty hours; pulsation had ceased at the end of two hours, and did not recur after the tourniquet was finally removed.

SUBCUTANEOUS INJECTION OF MORPHIA IN THE TREATMENT OF SCIATICA, LUMBAGO, AND BRACHIALGIA.—Dr. Henry Lawson has seen eighty cases of these forms of nerve-affection,—some of them excessively bad cases,—and in not more than three did the subcutaneous injection of morphia fail to give relief, in most cases complete. By means of this relief the patient was enabled to eat and drink with comfort, and by help of perchloride of iron, and in some cases by cod-liver oil, he was enabled to put on flesh rapidly, and to repair the waste of tissue under which he had been laboring. A valuable remedy in these cases is hypophosphite of soda. It is simply as a means of relieving the pain, not with any view of directly curing the sciatica, that Dr. Lawson administers morphia. The salt he uses is the muriate. Five grains are dissolved by the aid of heat in one drachm of distilled water: it must be injected warm, as the solution solidifies on cooling. The place of injection should be chosen as near as possible to the seat of pain, and the point of the needle should not be more than half an inch long. Dr. Lawson does not object to the puncture of a minute vein, as thereby the medicine is more rapidly absorbed, while the alarming symptoms which ensue are generally very transitory. The patient should have eaten a hearty meal about half an hour previous to the injection: this prevents to some degree the soporific effect of the drug, while it heightens its effect in allaying pain.

Dr. Lawson is led by his experience in the antagonism of atropia and morphia to side with Dr. Harley, and against Drs. Mitchell, Morehouse, and Keen, as well as Erlenmeyer. Lawson believes that these drugs are not antagonistic; at least there is no such antagonism as would justify their being used as antidotes one for the other. Dr. Lawson's

experience of atropia is distinctly against its use in cases of sciatica, lumbago, etc. Atropia always produces unpleasant sensations in the head, and a sense of fulness and giddiness; and it also accelerates the action of the heart. It certainly does give some relief from pain, but as compared with morphia not one-tenth the amount. The only difference in favor of atropia is that it does not appear to affect the bowels unfavorably. As regards the dose of morphia, Dr. Lawson thinks it better to give frequent injections (two, three, or four per diem, in extreme cases) and small doses, than large doses and few injections. The object of the practitioner must be merely the removal of pain, not the production of heavy sleep. Dr. L. has rarely to give more than a grain of morphia, and he usually gives the first injection to the extent of one-sixth of a grain soon after a full meal, increasing the amount in subsequent injections, but never beginning with a large dose, which he considers a foolish and dangerous procedure. Dr. Lawson uses tr. ferri chlor. in twenty- to thirty-minim doses, thrice daily, together with cod-liver oil invariably. In addition he suggests the taking of frequent small meals, every two hours even. As to the employment of injections of cold water in sciatica, Dr. L. says he has absolutely no faith in the remedy.—*Med. Times and Gaz.*

COMPLETE RUPTURE OF URETHRA; RETENTION OF URINE; RECOVERY (*New York Medical Journal*, January, 1877).—The following case was recently treated at Bellevue Hospital:

A man, aged 22, while working on a canal-boat, fell astride a board, and received a severe contusion in the perineal region. Shortly after the injury the patient urinated without difficulty, but found that the urine contained blood; afterwards, he was unable to pass his water, and remained for about two days without treatment. When he was taken to the hospital the bladder was found distended with urine, and reached up nearly as far as the umbilicus; there was also extravasation of urine in the scrotum and perineum. All attempts to introduce a catheter were without avail, and the urine had to be evacuated by means of an aspirator.

For the relief of the extravasation of urine an incision was made in the perineum, beginning at the junction of the penis and scrotum, and extending backward to within an inch of the anus. A sound was introduced into the urethra, and the incision carried down to it. The urethra was found to have been completely torn across. Following the operation, profuse bleeding took place, which was controlled by means of pressure made by a Barnes's dilator filled with cold water.

The patient did very well afterwards, with the exception of losing by a single slough the whole of the sides of the wound. At the present time a medium-sized sound can be carried into the bladder.

QUININE IN THE TREATMENT OF FISSURES OF THE NIPPLE (*Medical Press and Circular*, December 27, 1876).—Obstetric practitioners are much more in the habit of using quinine after childbirth than they were formerly, but we scarcely expected to hear that this agent would be found useful in the treatment of an affection which has always been regarded as more amenable to local than to constitutional remedies. Dr. Le Diberder, however, chief physician to the Lorient Hospital, is of opinion that the frequent failure of local treatment arises from the fact that this affection is only a manifestation of general disorder of the system. He says that the appearance of the fissures is soon followed by a general febrile state, of an intermittent nature, and during which the local affection is very likely to pass into engorgement of the breast, and even abscess. Accordingly, he thinks quinine will prove to be of the greatest service in those cases; and during a long experience of it he has always found that a cure was effected in from three to five days. He generally prescribed a dose of six grains early in the morning, and a similar dose about eleven o'clock A.M. Local treatment was considered of secondary importance, being confined chiefly to poultices and some simple wash or salve.

NOTE ON THE QUANTITATIVE ESTIMATION OF UREA (*The Practitioner*, January, 1877).—Drs. Russell and West, during the course of some experiments made in the summer, found that the hydrobromous solution decomposes very rapidly in hot weather, and that it is very important that it should be freshly prepared. They call especial attention to this, and direct that the solution be prepared as follows:

A solution of caustic soda is made in water in the proportion of 100 grammes of solid caustic soda to 250 c.c. of water. The solution may be made in large quantities, for it will keep good a very long time. To part of this solution bromine is added in the proportion of 25 c.c. to every 250 c.c. of caustic soda solution *at the time required for use.*

NOTES AND QUERIES.

DRUGGISTS AND DOCTORS' PRESCRIPTIONS.

CAMP DOUGLAS, UTAH TY.,
January 16, 1877.

MR. EDITOR,—In "Notes and Queries" of your issue of January 6, 1877, under the above heading you take note of an "elaborate paper" recently read by Mr. William Thompson, F.C.S., before the Literary and Philosophical Society of Manchester, entitled "On the Degree of Accuracy Displayed by Druggists in the Dispensing of Physicians' Prescriptions in Different Towns throughout England and Scotland."

The gist of this "elaborate paper," as noted in your columns, throws odium on the dispenser.

Two prescriptions (an iodide of potassium mixture and a zinc lotion) were written by Mr. Thompson and transmitted to eighty-one druggists to be compounded. The results were carefully analyzed, and "not one dispenser has succeeded in making the prescription to the exact strength in either mixture or lotion."

The specification in the matter of the zinc lotion or oint-

ment is not given sufficiently in detail in your note to make out a case of inaccuracy against druggists in general; the great point against them seeming to rest on the iodide mixture.

"Only two druggists of the eighty-one have given exactly the required weight of the potassium iodide; thirty-four have given *more* than the prescribed amount, and forty-five *less;* but it may be of further interest to notice that when the whole of the quantities of potassium iodide given by the eighty-one different druggists are added together, the total quantity comes to 220½ grains *less* than it would have been if each druggist had dispensed the exact quantity."

Now, why is this? Something may be allowed for inaccuracy in weights; but this is not the cause of the so-called "druggists' inaccuracy."

It depends on the purity of the potassium iodide in the dispensing-bottle on the druggist's shelf.

It seems strange that Mr. William Thompson, F.C.S., should have chosen an article notoriously impure for his *experimentum crucis* in determining the degree of accuracy displayed by druggists.

The purest specimen of potassium iodide which I have analyzed (manufactured by E. R. Squibb) showed the absence of bromide, a trace of iodate and of soda, and the presence of carbonate and chloride, the analysis running thus:

Iodide of potassium . . .	97.327
Chloride of potassium . . .	.265
Carbonate of potash . . .	1.121
Deliquescent and interstitial water	1.287
	100.000

Now, had Mr. William Thompson, F.C.S., dispensed his mixture (120 grains iodide in six ounces of water) from a bottle of this comparatively pure article, he would have found by analysis that he was 3.208 grains short of the quantity prescribed.

Wood and Bache, in the Dispensatory which lies on every dispenser's counter, say that "carbonate of potash is generally present in the proportion of from one to ten per cent." Dr. Christison has detected 74½ per cent., and Dr. Pereira as high as 77 per cent.

And, since such is the case, what does this charge against the dispenser amount to? I have no doubt that, as in all professional and business occupations, carelessness and the desire of gain will, in a few exceptional cases, creep in to taint the action of the dispenser. I must say, however, that my personal experience of drug-clerks in Scotland and in this country has led me to consider them in the line of daily duty as most conscientious men.

The fact that thirty-four of the eighty-one druggists gave *more*, and forty-five *less*, than the exact quantity, while the sum total shows a deficiency of 220½ grains, only proves, in view of the impurity of the article ordered, that so many druggists gave what is called in business "good weight."

Mr. William Thompson's experiment has a fallacy at its bottom, and in justice to the dispenser I object that the odium of such *unscientific* conclusions should be cast upon his shoulders.

Very respectfully,
CHARLES SMART,
Captain and Assistant-Surgeon, U. S. Army.

THE ACTION FOR LIBEL AGAINST THE MEDICAL PRESS AND CIRCULAR.

MEDICAL PRESS AND CIRCULAR, 20, KING WILLIAM ST., STRAND, W. C.

LONDON, Jan. 8, 1877.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

SIR,—Allow me, on behalf of the conductors of this journal, to thank you for your friendly notice of this case in your issue of December 23. At the same time I would like to point out one or two little errors which crept into your short *résumé*. You mention that the "*Dublin Medical Press and Circular* has been mulcted," that "Mr. Betts opened a dispensary in Dublin," and you hope that, "for the good of Dublin," his dispensary may altogether cease, or words to that effect. The title of the journal is *The Medical Press and Circular*, the said dispensary was opened in London, and the trial took place in London. This journal was first established in Dublin, about forty years ago, but for the last eleven years has been edited and published simultaneously in London and Dublin, and is in fact the only journal which devotes EQUAL SPACE to the schools of medicine and surgery of England and Ireland. In proof of the justness of our cause in the late action, I may as well mention that meetings of the profession were held last month in London and Dublin, at which cordial votes of sympathy, confidence, and support were unanimously passed, and a "*Medical Press and Circular* Defence Fund" started to defray our costs (about £300), in testimony of the appreciation of the profession of our defence of its dignity.

I have the honor to be
Your obedient servant,
ALBERT ALFRED TINDALL, Publisher.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JANUARY 28, 1877, TO FEBRUARY 10, 1877, INCLUSIVE.

MCCORMICK, C., ASSISTANT MEDICAL PURVEYOR.—Promoted Surgeon, with the rank of Colonel, vice J. J. B. Wright, retired.

SWIFT, E., SURGEON AND MAJOR.—Promoted Assistant Medical Purveyor, with the rank of Lieutenant-Colonel, vice McCormick.

MAGRUDER, D. L., SURGEON.—Granted leave of absence for two months. S. O. 21, A. G. O., January 29, 1877.

RANDOLPH, J. F., SURGEON.—Assigned to duty in Military Division of the Atlantic. S. O. 29, A. G. O., February 8, 1877.

BILL, J. H., SURGEON.—Assigned to temporary duty at McPherson Barracks, Atlanta, Ga. S. O. 23, Department of the South, January 30, 1877.

WRIGHT, J. P., SURGEON.—Assigned to duty at U. S. Military Prison, Fort Leavenworth, Kansas. S. O. 18, Department of the Missouri, January 29, 1877.

FRYER, B. E., SURGEON.—Assigned to duty as Post-Surgeon at Fort Leavenworth, Kansas, relieving Surgeon Wright. S. O. 18, c. s., Department of the Missouri.

GREENLEAF, C. R., SURGEON.—Relieved from duty in Department of the South, and assigned to duty in Department of the Gulf. S. O. 28, A. G. O., February 7, 1877.

NOTSON, WM. M., ASSISTANT-SURGEON.—Promoted Surgeon, with the rank of Major, vice Swift.

WATERS, W. E., ASSISTANT-SURGEON.—Assigned to temporary duty at Fort Columbus, N. Y. H. S. O. 29, c. s., A. G. O.

GARDNER, W. H., ASSISTANT-SURGEON.—Assigned to duty in Department of the South. S. O. 29, c. s., A. G. O.

WHITEHEAD, W. E., ASSISTANT-SURGEON.—Assigned to duty at Fort Riley, Kansas. S. O. 18, c. s., Department of the Missouri.

BUCHANAN, W. F., ASSISTANT-SURGEON.—Assigned to duty in Department of the South. S. O. 29, c. s., A. G. O.

BENTLEY, E., ASSISTANT-SURGEON.—Assigned to duty in Department of the Gulf. S. O. 29, c. s., A. G. O.

VICKERY, R. S., ASSISTANT-SURGEON.—Relieved from duty in Department of the Gulf, and assigned to duty in the Military Division of the Atlantic. S. O. 29, c. s., A. G. O.

WILSON, W. J., ASSISTANT-SURGEON.—Assigned to duty at Fort Craig, N. M. S. O. 22, Department of the Missouri, February 3, 1877.

MOFFATT, P., ASSISTANT-SURGEON.—Leave of absence extended two months. S. O. 24, A. G. O., February 1, 1877.

SKINNER, J. O., ASSISTANT-SURGEON.—Granted leave of absence for one month. S. O. 28, Department of the South, February 6, 1877.

WILCOX, T. E., ASSISTANT-SURGEON.—Assigned to duty at Camp Supply, Indian Ty. S. O. 18, c. s., Department of the Missouri.

WOOD, M. W., ASSISTANT-SURGEON.—Granted leave of absence for one month, and permission to apply for two weeks' extension. S. O. 10, Department of the Platte, January 23, 1877.

ANDREWS, W. C. C., ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon Davis, to report in person to Commanding General, Department of the Columbia, for assignment to duty. S. O. 21, c. s., A. G. O.

ROBINSON, SAMUEL Q., ASSISTANT-SURGEON.—Assigned to temporary duty at U. S. Military Academy. S. O. 21, c. s., A. G. O.

DAVIS, WM. B., ASSISTANT-SURGEON.—Assigned to temporary duty at St. Louis Depot, Missouri. S. O. 21, c. s., A. G. O.